

CLAIMS

I claim:

1 1. A method of monitoring dual-phase liquid and interface levels comprising the
2 following steps:

3 a) removably suspending a monitoring instrument in a site to be monitored,

4 b) providing a level element that floats on an upper surface of a product layer of
5 liquid in said site,

6 c) providing a first pressure transducer that is connected to said level element at
7 a fixed distance below said level element, said distance being such that said first
8 pressure transducer is suspended in a heavier one of the two liquids being monitored,

9 d) continuously monitoring output signals from said first pressure transducer
10 indicating measured fluid pressure,

11 e) continuously monitoring output signals from said level element indicating
12 measured fluid pressure, and

13 f) comparing said output signals of said first pressure transducer and said level
14 element to a reference pressure to calculate a level of a groundwater / product interface
15 and a thickness of said product layer.

1 2. The method as defined in claim 1 wherein:

2 said reference pressure is assumed to be a known pressure.

1 3. The method as defined in claim 1 wherein:

2 said reference pressure is measured at a reference side of said first pressure
3 transducer, an airway being provided between said first pressure transducer and a
4 position above said upper surface of said product layer.

1 4. The method as defined in claim 1 wherein:

2 said reference pressure is measured by a second pressure transducer positioned
3 above said upper surface of said product layer.

1 5. The method as defined in claim 1 wherein:

2 said first pressure transducer is in communication with a power supply,
3 processing, and display unit.

1 6. The method as defined in claim 4 wherein:

2 said second pressure transducer is in communication with a power supply,
3 processing, and display unit.

1 7. The method as defined in claim 1 wherein:

2 said level element comprises a float with a guide tube, a magnet movable along
3 a length of said guide tube, and a reed-switch installed in a travel path of said magnet;
4 such that said magnet moves along said guide tube in response to a changing fluid level,
5 thereby triggering different levels of resistance in said reed-switch and varying said
6 output signal of said level element.